

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of continuously desalinating water by reverse osmosis, comprising:

[[-]] introducing salt water under a first pressure by means of a delivery pump into a pressure compensating device having a piston/cylinder device with a salt water chamber and a concentrated salt water chamber,

[[-]] introducing salt water from the salt water chamber of the pressure compensating device at a second increased pressure into a salt water chamber of a membrane module and separated therein by means of a membrane into desalinated water and concentrated salt water, [[and]]

[[-]] discharging the concentrated salt water from salt water chamber of the membrane module at approximately the second pressure, [[and]]

introducing [[it]] the concentrated salt water under approximately the second pressure into the concentrated salt water chamber of the pressure compensating device, wherein the concentrated salt water introduced into the concentrated salt water chamber of the pressure compensating device acts and for acting with approximately the second pressure on the salt water introduced into the salt water chamber of the pressure compensating device and ~~for introducing acts on~~ the salt water introduced into the membrane module, and

~~introducing-maintaining~~ a continuous flow of the salt water [[into]] over a surface of the membrane in the membrane module ~~that is maintained over the surface of the membrane~~ by means of salt water discharged from a ~~reservoir~~ pressure booster,

the ~~reservoir~~ pressure booster having a piston reservoir with a piston, a pressure chamber, and a pressure reservoir, the piston having a front side with a respective surface area and a rear side with a respective surface area, wherein at the ~~piston~~ front side [[it]], the pressure booster has an inlet chamber connected to the salt water ~~outlet-chamber~~ of the

pressure compensating device and the salt water ~~[[inlet]]~~ chamber of the membrane module and at the ~~piston~~ rear side ~~[[it]]~~ of the piston, the pressure booster has an outlet chamber connected to ~~the outlet of the~~ a concentrated salt water outlet of the membrane module and ~~[[a]]~~ the pressure chamber which is connected to ~~[[a]]~~ the pressure reservoir, and ~~that the surface area ratios of the piston rear side and the pressure of the pressure reservoir are so set~~ the surface area of the front side of the piston and the surface area of the rear side of the piston have a ratio such that at predetermined moments in time a respective pressure is produced in the inlet chamber of the pressure booster, which is greater than the second pressure of the salt water discharged from the pressure compensating device.

2. (Currently Amended) A method according to claim 1 characterised in that the pressure compensating device has two piston/cylinder devices, each of the two piston/cylinder devices having a respective piston and further comprising operating the two piston/cylinder devices of the pressure compensating device which operate in opposite phase relationship ~~and which each have a respective piston~~, and ~~that the reservoir passes wherein maintaining a continuous flow of the salt water over a surface of the membrane in the membrane module by means of salt water discharged from a pressure booster further includes passing water from the reservoir~~ inlet chamber of the pressure booster into the membrane module upon a change in ~~[[the]]~~ a direction of movement of the pistons.

3. (Currently Amended) A method according to claim 1 ~~characterised in that wherein the respective pressure for discharging the water from the reservoir is produced by a combination of~~ produced in the inlet chamber of the pressure booster includes combining the approximately second pressure of the concentrated salt water discharged from the membrane module ~~[[and]]~~ with an assisting pressure from ~~[[a]]~~ the pressure reservoir.

4. (Currently Amended) Apparatus for continuously desalinating water by reverse osmosis, comprising:

[[-]] a pressure compensating device having a piston/cylinder device and defining a salt water chamber for receiving and discharging salt water and a concentrated salt

water chamber for receiving and discharging concentrated salt water, the piston/cylinder device receiving salt water at a first pressure and discharging the salt water from the salt water chamber at a second pressure that is greater than the first pressure,

a delivery pump for introducing salt water under ~~[[a]]~~ the first pressure into ~~[[a]]~~ the salt water chamber of the pressure compensating device,

~~[[-]]~~ a membrane module having a membrane for separating introduced salt water into desalinated water and concentrated salt water, the membrane module receiving the salt water at the second pressure from the pressure compensating device via a salt water inlet and discharging concentrated salt water at a concentrated salt water outlet, and

~~— a pressure compensating device having a piston/cylinder device for continuously feeding the salt water under a second increased pressure into the membrane module and for discharging the concentrated salt water, and~~

~~[[-]]~~ ~~a reservoir~~ a pressure booster for maintaining a continuous flow of the salt water introduced into the membrane module over ~~[[the]]~~ a surface of the membrane by the discharge of salt water from the ~~reservoir~~ pressure booster into the membrane module, the ~~reservoir~~ pressure booster having a piston reservoir with a piston, a pressure chamber, and a pressure reservoir, the piston having a front side with a respective surface area and a rear side with a respective surface area, wherein at the ~~piston~~ front side ~~[[it]]~~ of the piston, the pressure booster has an inlet chamber connected to the salt water ~~outlet chamber~~ of the pressure compensating device and the salt water inlet of the membrane module and at the ~~piston~~ rear side ~~[[it]]~~ of the piston, the pressure booster has an outlet chamber connected to the concentrated salt water ~~outlet of the concentrated salt water~~ of the membrane module and ~~[[a]]~~ the pressure chamber which is connected to ~~[[a]]~~ the pressure reservoir, and that the surface area ~~ratios of the piston rear side and the pressure of the pressure reservoir are so set~~ of the front side of the piston and the surface area of the rear side of the piston have a ratio such that at predetermined moments in time a respective pressure is produced in the inlet chamber of the pressure booster, ~~[[which]]~~ wherein the respective pressure is greater than the second pressure of the salt water discharged from the pressure compensating device.

5. (Currently Amended) Apparatus according to claim 4 characterised in that the pressure compensating device has two piston/cylinder devices operating in opposite phase relationship and each having a respective piston and that the ~~reservoir-pressure booster~~ passes salt water out of the ~~reservoir-pressure booster~~ into the membrane module upon a change in ~~[[the]]~~ a direction of movement of the pistons.

6. (Currently Amended) Apparatus according to claim 4 characterised in that the piston is of such a configuration that ~~[[the]]~~ a pressure ~~obtaining-obtained~~ in the pressure chamber can act on approximately a quarter of the surface area of the piston rear side and ~~[[the]]~~ a pressure ~~obtaining-obtained~~ in the outlet chamber can act approximately on three quarters of the surface area of the piston rear side.

7. (Previously Presented) Apparatus according to claim 4 characterised in that the pressure reservoir has a pressure which is at least double the second pressure.

8. (New) Apparatus according to claim 4 wherein the pressure reservoir is in fluid communication with the salt water inlet of the membrane module.

9. (New) Apparatus according to claim 4 wherein the pressure chamber is in fluid communication with the salt water inlet of the membrane module.

10. (New) Apparatus according to claim 4 further comprising:
a first fluid conduit connected to the pressure reservoir; and
a valve connected to the first fluid conduit, the valve providing fluidic communication between the salt water inlet of the membrane module and the pressure reservoir.

11. (New) Apparatus according to claim 4 further comprising:
a first fluid conduit connected to the pressure reservoir; and
a valve connected to the first fluid conduit, the valve providing fluidic communication between the salt water inlet of the membrane module and the pressure reservoir.

12. (New) A method according to claim 1 further comprising:
recharging the pressure reservoir via a salt water conduit connecting the pressure reservoir and the salt water inlet of the membrane module.

13. (New) A method of continuously desalinating water by reverse osmosis, comprising:

introducing salt water under a first pressure by means of a delivery pump into a pressure compensating device having a piston/cylinder device with a salt water chamber and a concentrate salt water chamber;

introducing salt water from the salt water chamber of the pressure compensating device at a second increased pressure into a salt water chamber of a membrane module and separated therein by means of a membrane into desalinated water and concentrated salt water;

discharging the concentrated salt water from the salt water chamber of the membrane module at approximately the second pressure;

introducing the concentrated salt water under approximately the second pressure into the concentrated salt water chamber of the pressure compensating device, wherein the concentrate salt water introduced into the concentrate salt water chamber of the pressure compensating device acts with approximately the second pressure on the salt water introduced into the salt water chamber of the pressure compensating device and on the salt water introduced into the membrane module; and

maintaining a continuous flow of the salt water over a surface of the membrane in the membrane module by means of salt water discharged from a piston reservoir,

the piston reservoir having a reservoir with a piston, a inlet chamber, a pressure chamber, and a pressure reservoir connected to the pressure chamber;

the piston having a front side with a respective surface area and a rear side with a respective surface area, wherein at the front side, the piston is in contact with the inlet chamber of the piston reservoir, and the inlet chamber is connected to the salt water chamber of the pressure compensating device and the salt water chamber of the membrane module;

an outlet chamber at the rear side of the piston connected to a concentrated salt water outlet of the membrane module;

said pressure chamber positioned to exert pressure on the piston in the piston reservoir in operation, and the surface area of the front side to the piston in the piston reservoir and the surface area of the rear side of the piston in the piston reservoir have a ratio such that at predetermined moments in time a respective pressure is produced in the inlet chamber of said piston reservoir which is greater than the second pressure of the salt water discharged from the pressure compensating device.

14. (New) A method according to claim 13 wherein the pressure compensating device has two piston/cylinder devices, each of the two piston/cylinder devices having a respective piston and further comprising operating the two piston/cylinder devices of the pressure compensating device in opposite phase relationship, and wherein maintaining a continuous flow of the salt water over a surface of the membrane in the membrane module by means of salt water discharged from a piston reservoir further includes passing water from the inlet chamber of the piston reservoir into the membrane module upon a change in a direction of movement of the pistons.

15. (New) A method according to claim 13 wherein the respective pressure produced in the inlet chamber of said piston reservoir includes combining the approximately second pressure of the concentrated salt water discharged from the membrane module with an assisting pressure from the pressure reservoir.

16. (New) A method according to claim 13 comprising:
recharging the pressure reservoir via a salt water conduit connecting the pressure reservoir and the salt water inlet of the membrane module.

17. (New) Apparatus for continuously desalinating water by reverse osmosis, comprising:

a pressure compensating device having a piston/cylinder device and defining a salt water chamber for receiving and discharging salt water and a concentrated salt water chamber for receiving and discharging concentrated salt water, the piston/cylinder device receiving salt water at a first pressure and discharging the salt water from the salt water chamber at a second pressure that is greater than the first pressure,

a delivery pump for introducing salt water under the first pressure into the salt water chamber of the pressure compensating device,

a membrane module having a membrane for separating introduced salt water into desalinated water and concentrated salt water, the membrane module receiving the salt water at the second pressure from the pressure compensating device via a salt water inlet and discharging concentrated salt water at a concentrated salt water outlet, and

a piston reservoir for maintaining a continuous flow of the salt water introduced into the membrane module over a surface of the membrane by the discharge of salt water from the piston reservoir into the membrane module, the piston reservoir having a piston, a pressure chamber, and a pressure reservoir, the piston having a front side with a respective surface area and a rear side with a respective surface area, wherein at the front side of the piston, the piston reservoir has an inlet chamber connected to the salt water chamber of the pressure compensating device and the salt water inlet of the membrane module and at the rear side of the piston, the piston reservoir has an outlet chamber connected to the concentrated salt water outlet of the membrane module;

wherein the pressure chamber is connected to the pressure reservoir, and positioned to exert a pressure into the inlet chamber in said piston reservoir, and the surface area of the front side of the piston and the surface area of the rear side of the piston have a ratio such that at predetermined moments in time a respective pressure is produced in the inlet chamber of the piston reservoir, wherein the respective pressure is greater than the second pressure of the salt water discharged from the pressure compensating device.

18. (New) Apparatus according to claim 17 wherein the pressure compensating device has two piston/cylinder devices operating in opposite phase relationship and each having a respective piston and that the piston reservoir passes salt water out of the piston reservoir into the membrane module upon a change in a direction of movement of the pistons.

19. (New) Apparatus according to claim 17 wherein the piston is of such a configuration that a pressure obtained in the pressure chamber can act on approximately a quarter of the surface area of the piston rear side and a pressure obtained in the outlet chamber can act approximately on three quarters of the surface area of the piston rear side.

20. (New) Apparatus according to claim 17 wherein the pressure reservoir has a pressure which is at least double the second pressure.